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DITTHAVONG & CARLSON, P.C.
Suite A
10507 Braddock Rd.
Fairfax, VA 22032

EXAMINER	
MEHRMANESH, ELMIRA	
ART UNIT	**PAPER NUMBER**
2113	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/29/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/783,240	AMARNATH ET AL.	
	Examiner	Art Unit	
	Elmira Mehrmanesh	2113	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 November 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *20 February 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This action is in response to an amendment filed on November 08, 2006 for the application of Amarnath et al., for an "Event sensing and meta-routing process automation" filed February 20, 2004.

Claims 1-21 are presented for examination.

Claims 1, 11, and 20 have been amended.

Claim 21 has been added.

Claim 21 is rejected under 35 USC § 102.

Claims 1-20 are rejected under 35 USC § 103.

Claim Rejections - 35 USC § 101

In response to the amendments to claims 1 and 20, the last rejections have been withdrawn.

Claim Rejections - 35 USC § 112

Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "said conductor and distributed services agents components" in lines 9-10. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Golani et al. (U.S. PGPUB No. 20040260590) in view of Krum (U.S. Patent No. 6,618,820).

As per claim 1, Golani discloses a distributed system for process automation (Fig. 1) comprising:

a computer-readable medium configured to store a representation of the process as a plurality of nodes and a plurality of directed links (Fig. 2), each said node having a plurality of attributes, each of said directed links connecting two of said nodes and representing the sequencing and possibly data dependency between the two of said nodes, said plurality of nodes including a plurality of start nodes (Fig. 2) and (page 3, paragraphs [0045] and [0046])

said means to start component producing `ready2go`events for said plurality of start nodes (Fig. 4, element 60), s conductor component configured to handle

`ready2go`and `completed` events (page 4, paragraph [0055]) by generating `inprocess` events in response to `ready2go`events and deciding when to produce additional `ready2go`events for successor nodes in response to `completed` events (Fig. 4, element 63), and a distributed services agent configured to handle `inprocess` events by performing application work and producing `completed` or `error` events (page 3, paragraph [0043]).

Golani fails to explicitly disclose an event router.

Krum teaches:

an event router component (Fig. 12, element 1201, *farm allocator*) configured to receive status transition events for said nodes (col. 12, lines 5-9) and dispatching said events to said conductor and distributed services agents components (col. 12, lines 9-20). Krum also discloses the Master Farmer system (Fig. 2) assigns jobs (Fig. 2, element 203, *distribute jobs component*) to Slave Farm system and receives job status from the Slave farm systems (col. 5, lines 47-59).

It would have been obvious to one of ordinary skill in the art at the time the invention to use the method of automatic generation of process modeling of Golani et al. in combination with the method and system of process request handling of Krum to effectively handle the requested processes.

One of ordinary skill in the art at the time the invention would have been motivated to make the combination because Golani discloses of processing tasks by multiple nodes in the system (Fig. 1). Krum discloses using a multi-computer system will reduce overhead (Krum, col. 3, lines 1-5).

As per claim 2, Golani discloses said representation is configured to define non-overlapping sections of the process, and having at most as many active instances of the process as said non overlapping sections of the process, wherein each of said instances of the process having at most one non-overlapping section that has nodes in statuses other than `notreached` or `completed`, and nodes in other sections in the same `notreached` or `completed` status (page 5, paragraph [0068]).

As per claim 3, Golani discloses said representation is configured to specify cached data in a node, such that a successor node to said node starts execution further when the status of said node is `notreached` (page 4, paragraph [0062]).

As per claim 4, Golani discloses said representation is configured to define sub-flows, and a means to invoke a plurality of instances of said sub-flows (page 2, paragraph [0021]).

As per claim 5, Golani discloses said representation is configured to define an error handling flow, and invoke one instance of said error handling flow when one node in said plurality of nodes receives an `error` event (page 4, paragraphs [0056], [0057], [0058]).

As per claim 6, Golani discloses a means to evaluate at run time said node attributes and using said evaluated attributes when performing said application work

(page 3, paragraph [0043] and page 5, paragraph [0065]).

As per claim 7, Golani discloses said means to evaluate at run time said node attributes comprises computing parameters and having a means to handle parameter clashes (page 4, paragraph [0062] and page 5, paragraph [0065]).

As per claim 8, Golani discloses said representation is configured to specify conditional dependencies, and said conductor component recognize a `pseudo-completed` event for nodes transitioned to via non satisfied said conditional dependencies (page 5, paragraph [0066]).

As per claim 9, Golani discloses a repository component that stores the event history, and a means to play back the process execution based on said event history (Fig. 1, element 34).

As per claim 10, Golani discloses a plurality of domains, wherein each of said domains has a plurality of processes out of which at most one is active at any time (page 2, paragraph [0016]).

Claims 11-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Golani et al. (U.S. PGPUB No. 20040260590) in view of Fiszman et al. (U.S. Patent No. 6,115,646).

As per claim 11, Golani discloses a method for dataflow automation in a system comprising a plurality of data management systems (Fig. 1), comprising:

storing a representation of the dataflow having a plurality of nodes and links (Fig. 2), wherein each of the nodes corresponds to a process managing a portion of the dataflow in one of the data management systems, and each of the links connect two of the nodes and correspond to a dependency between two of the processes that correspond to the two of the nodes (Fig. 2) and (page 3, paragraphs [0045] and [0046])

sensing an event that occurs in one of the processes managing the dataflow in one of the data management systems, wherein the sensed event indicating whether the one of the processes has completed or has produced an error (page 3, paragraph [0043])

in response to the sensed event, scheduling a task to manage data portion of the dataflow in another process in another of the data management system based whether events have been received indicating that predecessors for the other process indicated in the representation has completed or has produced an error (page 4, paragraph [0060]).

Golani fails to explicitly disclose heterogeneous systems.

Fiszman teaches:

wherein the data management systems are heterogeneous systems (col. 3, lines 5-7).

It would have been obvious to one of ordinary skill in the art at the time the invention to use the method of automatic generation of process modeling of Golani et al. in combination with the Dynamic and generic process automation system of Fiszman et al. to effectively provide scalable work flow management services.

One of ordinary skill in the art at the time the invention would have been motivated to make the combination because Golani discloses a method of generating a workflow model of a business process (Fig. 1) and Fiszman discloses a system for workflow management and process automation (Fig. 3 and 4). Use of Workflow management in businesses provides an understanding of the processes in order to improve efficiency and quality and to reduce costs (Golani, page 1, paragraph [0002], lines 1-3). Fiszman discloses process automation can be used to reduce costs (col. 3, lines 31-35).

As per claim 12, Golani discloses tagging some of the nodes in the representation as boundary nodes that define a plurality of sections of the dataflow, wherein the scheduled task is operating in one of the sections; and scheduling another task in another section of the dataflow, wherein the scheduled tasks and the other scheduled task are active at the same time (page 4, paragraph [0060]).

As per claim 13, Golani discloses defining, in the representation, a subroutine of sub-flows that specifies a set of processes to be executed based on an invoking node; and executing the subroutine of sub-flows at an invoking node (page 2, paragraph

[0021]).

As per claim 14, Golani discloses the subroutine of sub-flows includes an error handler subroutine (page 4, paragraphs [0056], [0057], [0058]).

As per claim 15, Golani discloses storing an attribute for each node in the representation as a string that references one or more parameters produced by predecessor nodes of the node; and substituting the parameters in the attribute when invoking a process corresponding to the node (page 3, paragraphs [0043]).

As per claim 16, Golani discloses determining whether at least two of the predecessor nodes have produced a parameter with a same name; and selecting a value of the most recent parameter when at least two of the predecessor nodes have produced a parameter with a same name (page 4, paragraphs [0063]).

As per claim 17, Golani discloses selecting a successor process from among a plurality of successor processes at node to schedule based on a condition; scheduling a task for the selected successor process; and marking other of the successor process with one of a status indicating a completion (page 4, paragraphs [0060]).

As per claim 18, Golani discloses recording events and invocation of processes in a repository; and playing back the recorded events and invocation of processes (Fig.

1, element 34).

As per claim 19, Golani discloses defining a plurality of domains; and executing a separate dataflow in each of the domains (page 2, paragraphs [0016]).

As per claim 20, Golani discloses a computer-readable storage medium bearing instructions for dataflow automation, said instructions being arranged, upon execution by one or more processors, to perform the method according to claim 11 (page 2, paragraphs [0031]).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 21 is rejected under 35 U.S.C. 102(b) as being anticipated by Fiszman et al. (U.S. Patent No. 6,115,646).

As per claim 21, a method of data processing, the method comprising:

receiving information, corresponding to a process (Fig. 4, element 6, *status*), from a plurality of heterogeneous data platforms (col. 3, lines 5-7)

and providing a sense-and-response framework to process the received information (Fig. 4, *process instance servers*), wherein the framework receives events in

the process (Fig. 4, element 3, *request*) and initiates a plurality of heterogeneous tasks (Fig. 4, element 4, *schedule activity*) in response to the events (Fig. 4, element 3, *request*) and (col. 3, lines 40-44, *event-driven system*)

wherein the tasks are executed until the process reaches an endpoint (col. 3, lines 40-44, *completion of an activity*).

Response to Arguments

Applicant's arguments see pages 8-11, filed November 08, 2006 with respect to the rejection(s) of claim(s) 1-20 under 35 USC § 102 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made over Golani et al. (U.S. PGPUB No. 20040260590) in view of Krum (U.S. Patent No. 6,618,820) and further view of Fiszman et al. (U.S. Patent No. 6,115,646). Refer to the corresponding section of the claim analysis for details.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elmira Mehrmanesh whose telephone number is (571) 272-5531. The examiner can normally be reached on 8-5 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert W. Beausoliel can be reached on (571) 272-3645. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).